
Preface

This book aims to provide practical information for researchers involved in genomic research in the rat along with a more contextual discussion about the usefulness of the rat in physiological or translational research in different organs and systems.

The rat has been a model of choice for physiological studies, and thus a great deal of information is already available. In addition, a large number of inbred, congenic, and transgenic rat lines have already been described. An exponential growth in rat genomics is taking place based on the recent availability of genomic tools. These include genome sequencing, quantitative trait loci mapping, and the identification of single nucleotide polymorphisms as well as the development of transgenic technologies such as nuclear cloning, lentiviral-mediated transgenesis, gene knock-down using RNA interference, gene knock-out by mutagenesis, and zinc finger nucleases plus exciting advances in the obtention of rat embryonic cell lines. All of these topics and others important for research in the rat are covered by world-wide experts in each field.

The convergence and integration of physiological and genomic data using the infrastructure of genome databases and strain depository centres is boosting translational research using rat models to improve human health.

Within this context, the edition of a book that thoroughly covers the techniques used and overviews the applications of the data obtained is very likely to be useful to the scientific community as a source of information, references and methods.

Nantes, France

Ignacio Anegón

Rat Genomics

Methods and Protocols

Anegon, I. (Ed.)

2010, XVI, 462 p. 70 illus., 2 illus. in color., Hardcover

ISBN: 978-1-60327-388-6

A product of Humana Press